



YENYO

# HFR30A12

Hyperfast Recovery Rectifier

## Features

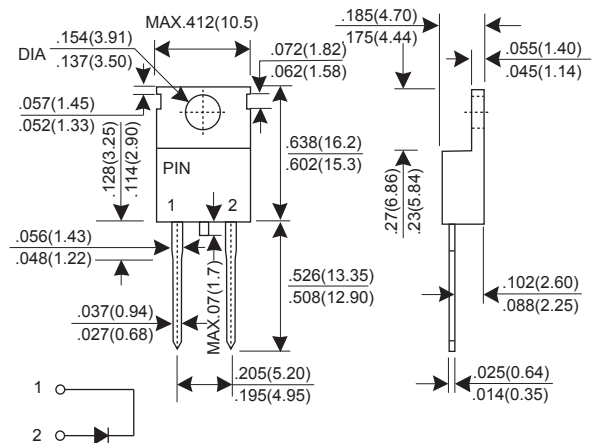
- \* Fast switching for high efficiency
- \* Low noise
- \* Low reverse leakage current
- \* High voltage super FRD
- \* PFC application

## Mechanical Data

- \* Case: Molded plastic TO-220AC
- \* Epoxy: UL 94V-0 rate flame retardant ,
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Mounting position: Any
- \* Weight: 2.07 grams

**Voltage Range 1200 V  
Current 30.0 Ampere**

### TO-220AC



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

CHARACTERISTIC	SYMBOL	HFR30A12			UNIT
		Min.	Typ.	Max.	
Recurrent Peak Reverse Voltage	VRRM	-	-	1200	V
RMS Voltage	VRMS	-	-	840	V
DC Blocking Voltage	V <sub>DC</sub>	-	-	1200	V
Average Forward Rectified Current T <sub>c</sub> = 80 °C	I <sub>F(AV)</sub>	-	-	30.0	A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	-	-	250	A
Instantaneous Forward Voltage @30A(25°C) @30A(150°C)	V <sub>F</sub>	-	-	3.2 2.8	V
DC Reverse Current @T <sub>J</sub> =25°C At Rated DC Blocking Voltage @T <sub>J</sub> =150°C	I <sub>R</sub>	-	-	250 1000	uA uA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	-	-	55	nS
Maximum Reverse Recovery Time (Note 2)	T <sub>rr</sub>	-	-	85	nS
Typical junction Capacitance (Note 3)	C <sub>J</sub>	-	60	-	pF
Typical Thermal Resistance (Note 4)	R <sub>θJC</sub>	-	-	1.2	°CW
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65	-	175	°C

NOTES : (1) Reverse recovery test conditions I<sub>F</sub> = 0.5A , I<sub>R</sub> = 1A , I<sub>rr</sub> = 0.25A

(2) Reverse recovery test conditions I<sub>F</sub> = 15A, dI<sub>F</sub>/dt = 100A/us.

(3) Junction Capacitance test conditions : V<sub>R</sub> = 10V, I<sub>F</sub> = 0A.

(4) Thermal Resistance junction to case.

# RATINGS AND CHARACTERISTIC CURVES HFR30A12

FIG.1 - FORWARD CURRENT DERATING CURVE

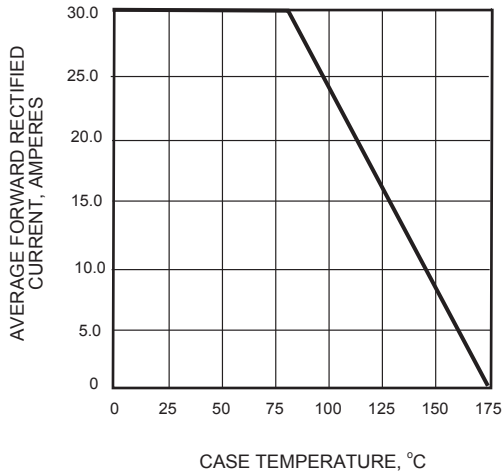


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

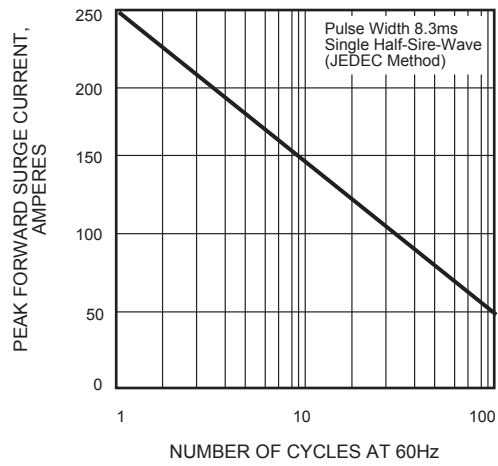


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

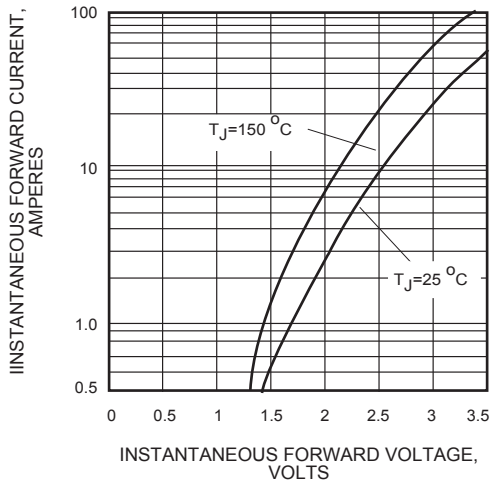


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

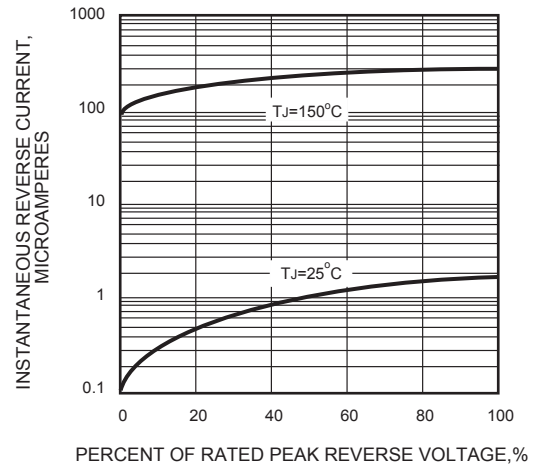


FIG.5 -  $T_{rr}$ ,  $t_a$  AND  $t_b$  CURVES vs FORWARD CURRENT

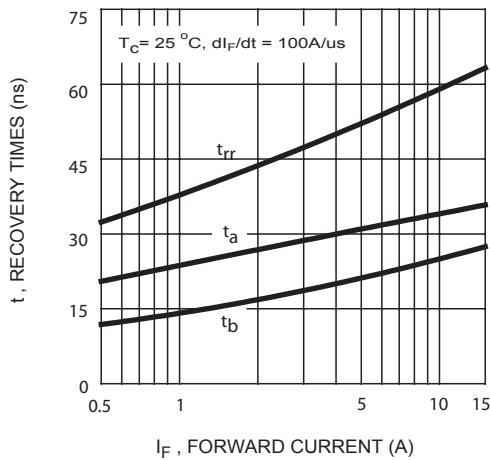


FIG.6 - TYPICAL JUNCTION CAPACITANCE

